

NAVAL BASE PHILADELPHIA-  
PHILADELPHIA NAVAL SHIPYARD,  
SERVICE BUILDING DRY DOCK NOS. 4 AND 5  
(Naval Base Philadelphia-Philadelphia Naval  
Shipyards, Building No. 620)  
League Island  
Philadelphia  
Philadelphia County  
Pennsylvania

HAER No. PA-387-X

HAER  
PA  
SI-PHILA,  
709X-

#### PHOTOGRAPHS

#### WRITTEN HISTORICAL AND DESCRIPTIVE DATA

#### HISTORIC AMERICAN ENGINEERING RECORD

National Park Service  
Philadelphia Support Office  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, P.A. 19106

**HISTORIC AMERICAN ENGINEERING RECORD**  
**NAVAL BASE PHILADELPHIA-PHILADELPHIA NAVAL SHIPYARD,**  
**SERVICE BUILDING, DRY DOCKS NOS. 4 AND 5**  
(Naval Base Philadelphia-Philadelphia Naval Shipyard, Building No. 620)

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**Location:** League Island, Philadelphia, Philadelphia County  
Pennsylvania

**UTM Coordinates:** Zone Easting Northing  
18 483580 4415040  
Quadrangle: Philadelphia, Pa.-N.J., 1:24,000

**Date of Construction:** 1941

**Designers:** Dry Dock Associates (Spencer, White & Prentis, Inc., Foley Brothers, Inc.,  
Merritt-Chapman & Scott Corporation)

**Present Owner:** United States Navy  
Naval Facilities Engineering Command  
10 Industrial Highway  
Lester, Pennsylvania 19113-2090

**Present Use:** Vacant

**Significance:** This building was constructed to serve the adjacent Dry Dock Nos. 4 and 5.  
The building contained utilities needed for dry dock operation, as well as  
shops, offices, and services for dry dock workers.

**Project Information:** Service Building, Dry Dock Nos. 4 and 5, has been determined to be a  
contributing resource within the Philadelphia Naval Shipyard Historic District.  
It is located on a portion of the Philadelphia Naval Shipyard presently under  
redevelopment as the site of the Kvaerner shipyard, a commercial shipbuilding  
operation. A Programmatic Agreement dated July 24, 1998 among the  
Pennsylvania Historical and Museum Commission, the Advisory Council on  
Historic Preservation, and the U.S. Navy, stipulated that this building be  
recorded to the standards of the Historic American Engineering Record.

**Preparers of  
Documentation:** Richard Meyer/Senior Project Manager  
Douglas C. McVarish/Project Architectural Historian  
  
John Milner Associates, Inc.  
535 North Church Street  
West Chester, Pennsylvania 19380  
  
1999

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**Description of the Feature**

Service Building, Dry Dock Nos. 4 and 5, Building No. 620, is located on the esplanade between the two dry docks, south of Porter Avenue. This irregularly-shaped building measures a maximum of 380 feet long and 128 feet wide. The floor area of the building is 137,814 square feet, while the total cubic footage of the building is 1,975,324 (U.S. Navy Bureau of Yards and Docks 1945).

In general form, the brick and concrete building consists of a rectangular block with a narrower rectangular, three story block projecting from its north elevation. The south end of the building, initially planned as rounded and shown as such in original architectural drawings, steps outwardly toward the center of the wall, while the north block is flanked by single story, flat-roofed ells. Elevator shafts are located in the southeast and northwest corners of the building. The building is generally three and four stories in height with a basement. Its roof is flat.

The east elevation of the building faces toward Dry Dock No. 4. The first story of this elevation is fenestrated with a mixture of fixed and transom sash, corrugated, wire glass windows. Interspersed between ribbons of windows are paired, single-light, flush panel, steel doors. The southern set of doors is surmounted by a four-light transom of corrugated wire glass. The second story is fenestrated with a ribbon of two-part corrugated wire glass windows. The upper steel-framed portions are transom sashes. Spaced along the second story wall are five sets of two-leaf, loading doors. Each of these steel doors has eight rectangular lights, and the door opening is surmounted by a steel beam hoist that projects from the wall of the building. The third story is fenestrated with ribbon of steel-framed windows, consisting of 6 and 10-light windows. The 10-light windows contain a central, two-light, transom sash. A corrugated steel fascia marks the roofline. A single-story, flat roofed brick ell with concrete coping projects from the north end of the east wall. In front of this ell are concrete-walled transformer enclosures.

The south elevation of the building steps outwardly toward the center. Toward the east end of the elevation is a rectangular elevator tower that rises above the roofline of the adjacent portions of the building. The central portion of the south elevation is three bays wide. A single-light steel door is placed in the east bay of the ground floor. Fenestration consists of groups of four and five-light, corrugated, wire glass windows.

The west elevation is similar to the east elevation. The first story contains two-leaf, single-light steel doors surmounted by four-light, corrugated, wire glass transoms. The second story is marked by five, two-leaf loading doors. These steel doors each have eight-rectangular lights, and four of the five sets are surmounted by a steel beam hoist that projects from the wall of the building. Interspersed among these doors are ribbons of corrugated, wire glass windows, consisting of transom sashes over fixed sashes. The top story is fenestrated by a ribbon of steel-framed, six and ten-light windows. The 10-light windows have central, two-light, transom sashes. All of the windows have concrete sills. At the north end of the third floor are double loading doors, surmounted by a steel beam hoist.

An elevator tower rises from the northwest corner of the building. The north wall of this tower is fenestrated with three, one over one, double hung, sash windows with concrete sills and lintels, while an overhead door is placed in its south wall. A steel cage ladder provides access to its roof. A two story, brick, flat-roofed ell projects from the north end of the east wall. This ell has a concrete band course,

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delineating the floor level, and concrete coping at its roofline. Double doors in the north wall of the main block provide access to the roof of this ell. These doors are surmounted by transom lights. A concrete block transformer enclosure adjoins this ell.

The north wall of the projecting central north block is dominated by a large, rolling, steel overhead door. The upper wall is pierced with a ribbon of six and ten-light, steel-framed windows similar to those elsewhere on the building exterior. The ten-light windows have central, two-light, transom sashes. The upper walls are sheathed in corrugated steel fascia. The sides of the north wall of the main block contain large, rectangular, louvered steel vents in the second and third stories.

The building is largely faced in common bond brick. Precast concrete details include a water table, sills, lintels, and wide concrete coping. Wire glass windows have steel frames. A rolling, steel overhead door is placed in the north wall. Entry doors are of the flush panel, steel type with wire glass windows.

The building has a structure of concrete columns and beams. Concrete structural piers are supported by steel pilings. The basin level, elevation 6 feet 9 inches, is 8 foot 3 inches in height. The first floor is 15 feet 1 1/2 inches in height; the second and third floors are 13 feet 11 3/4 inches in height. The total height of the building to the top of the coping is 47 feet 6 1/4 inches.

The basement of the building contains a concrete monolith, extending down into the foundation of the building, to support the compressors and other heavy equipment at the north end of the first floor. A fresh air tunnel also extended through the basement.

As originally designed, the south end of the first story contained toilet rooms for officers, supervisors, enlisted men, and the yard force. Each of these rooms had a terrazzo floor and salt-glazed tile wainscot, bullnose, and coping. Other spaces, each of which extended the full width of the building, included an 8,400 square foot tool room, a 4,800 square foot rivet and bolt storage room, and a 2,400 square foot material issue room. The north end of the first floor was devoted to utilities. A central space, open to the second story, included spaces for six large air compressors, as well as a substation. This central space was flanked by smaller spaces, one story in height. These flanking spaces included a repair floor and an extension of the substation. The single story ells contained transformer spaces.

Second story spaces were reached by ramps at the south end of the building and stairwells at the north end. The bulk of the floor was divided into a series of shops, each of which extended the width of the building. These included (from south to north), the 3,800 square foot shop 53 (coppersmith), the 2,950 square foot 61 and 63 (woodworking) shops, the 2,950 square foot 51 (electrical) shop, the 2,950 square foot 38 (machinist) shop, 960 square foot 72 (labor and riggers) shop, the 900 square foot 71 (paint) shop, and the 2,950 square foot 17 (sheet metal) shop. A 20 ton, hand-operated crane traveled on rails across the open space at the north end of the building. This open space was flanked by 2,600 square foot shop spaces. The west space contained 11 and 26 (structural) shops, while the east space contained 41 (structural) shops. The third story was also reached by ramps at its south end, and stairwells at its north end. The ramps were equipped with pipe rails. The bulk of the third story was an open space containing lockers for officers, quartermen, and leading men. Toilets for civilians and officers were located in rooms at the south end of this space, and the six-sided south end contained a yard wash room.

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Elevator penthouses are located at the north and south ends of the building. Both penthouses have walls pierced with wire glass windows. These windows have concrete sills and lintels, and the blocks have concrete coping. Other utility penthouses, representing later additions, also project from the roof surface.

In its final years, the north end of the first floor contained utilities for the two dry docks, including air compressors and transformers. The south end of the building was divided into a series of spaces, most of which extended the width of the building. Among these were the 11 (structural) shop, the 26 (welding) shop, general shop stores, the 72 (riggers) shop, the tool shop, toilets and locker rooms, the SLEP (Service Life Extension Program) office, and a conference room. The northern end of the second floor was open to the first floor. The second floor included the cafeteria and 71 (paint) shop at its south end. To the north were the 38 (main marine) shop, the 56 (pipe fitter) shop, the 64 (woodworkers) shop, and the 17 (sheet metal) shop. Equipment placed in second floor shops included saws, hoists, grinders, benders, threaders, drills, shapers, and lathes. Much of the third story was used for storage. The remainder of the third floor accommodated ships force administrative offices, and women's and men's toilets.

### Historical Background

The general layout of the building was designed by staff of the Philadelphia Naval Shipyard Public Works Office. Details of the building design were developed by Dry Dock Associates, a consortium of Spencer, White & Prentis, Inc., Foley Brothers, Inc., and Merritt-Chapman & Scott Corporation.

The total cost of the building was estimated in May 1942 as \$189,700. The fee for architect's services was \$5,500 (Watson 1942).

Ron Reeves, a worker in the 17 (sheetmetal) shop of the Philadelphia Naval Shipyard in its last years of operation, recalled the functions of Building No. 620:

620 had offices for all the trades on two floors, toolroom and shop stores & a large head at the south end. On the second deck there was a cafeteria, with a few locker rooms. On the third level ships' force had their offices, galley & etc. On the roof there trailers for some of the other codes (Reeves 1998).

Mike Thompson, an electrician at the yard in the 1970s and 1980s, indicated that Building No. 620 was one of a series of service buildings erected in close proximity to the dry docks. Its level of use varied. When either Dry Dock No. 4 or Dry Dock No. 5 was in use, the building was filled. When these dry docks were not in use, the building was nearly empty. Much of the building was devoted to satellite facilities for the various shops. The main fabricating buildings for the various shops were located elsewhere in the shipyard. Building No. 620 facilities included an office for the job foreman and limited amounts of machinery. Shop workers would check-in at the appropriate satellite shop to receive their assignments. The main tool crib was located in Building No. 570, east of Dry Dock No. 3, but Building No. 620 also contained a satellite tool crib (Thompson 1998).

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**SOURCES OF INFORMATION/BIBLIOGRAPHY**

**Interview**

Thompson, Mike

1998 Interview with Douglas C. McVarish. January 26, 1998.

**Unpublished Sources**

Reeves, Ron

1998 Electronic mail message to Douglas C. McVarish. December 25, 1998.

Watson, A.E.

1942 Memorandum to the Chief of the Bureau of Yards and Docks concerning the cost of the Service Building. May 11, 1942. RG 21, Bureau of Ships. Textual Records Branch, National Archives, College Park, Maryland.

**Architectural Drawings**

Collection of approximately 75 architectural drawings prepared by Dry Dock Associates and the Shipyard Public Works Office (1940). At Cushman & Wakefield, Inc., Building No. 501, Philadelphia Naval Business Center.

**Historic Views**

Four photographs of Building No. 620, 1941 and 1942. RG 71, Prints and Photographs Branch, National Archives, College Park, Maryland. (These illustrations are reproduced on pages 7 to 10 which follow.)

**Secondary and Published Sources**

U.S. Navy Bureau of Yards and Docks.

1945 *Public Works of the Navy Data Book. Buildings. NAVDOCKS P-164.* Bureau of Yards and Docks, Washington, D.C.

1947 *Building the Navy's Bases in World War II. History of the Bureau of Yards and Docks and the Civil Engineer Corps, 1940-1946.* Government Printing Office, Washington, D.C.

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Plan of west end, Philadelphia Naval Shipyard, showing location of Service Building, Dry Dock Nos. 4 and 5 (Building No. 620).

Plan of west end, Philadelphia Naval Shipyard, showing location of Service Building, Dry Dock Nos. 4 and 5 (Building No. 620).

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Naval Yard, Philadelphia, Pa.  
Shipbuilding Dry Dock No. 4  
Contract No. 4100  
Service Building Foundations

Looking north

Service Building foundations. Looking north. September 2, 1941.

Original at Prints & Photographs Branch, National Archives, College Park, Maryland (RG71)



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Navv Yard, Philadelphia, Pa.  
Shipbuilding Dry Docks 4 & 5  
Contract No. 4100

Looking south

Construction of Dry Dock Nos. 4 and 5 with superstructure of Building No. 620  
in center of photograph. Looking south. November 3, 1941.

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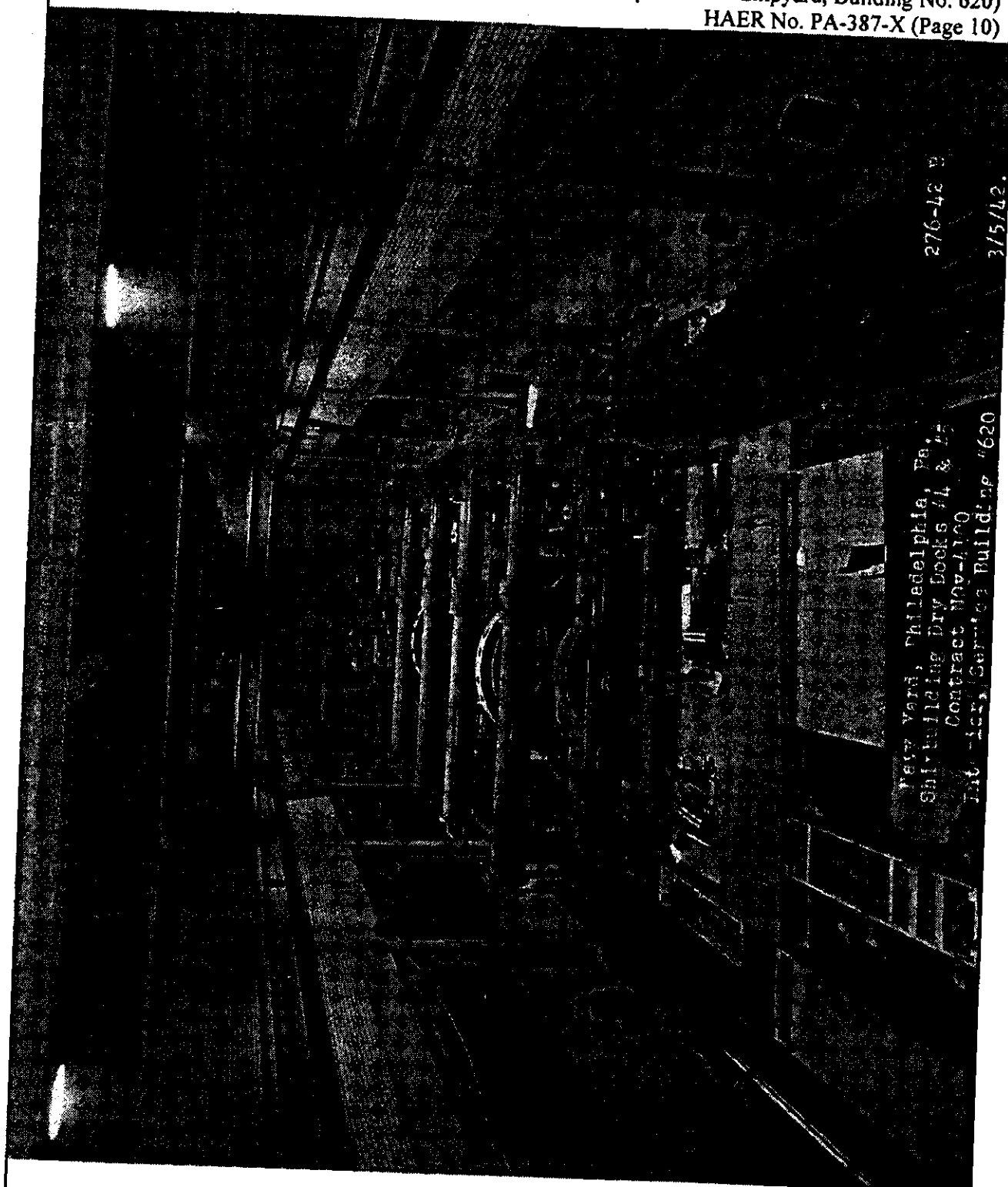
12/8/41.

Navy Yard, Philadelphia, Pa.  
Shipbuilding Dry Docks Nos. 4 and 5  
Contract No. 107-4100  
Dry Dock No.

Basin for Dry Dock No. 5, showing steel superstructure of Building No. 620 at left. December 8, 1941.

Original at Prints & Photographs Branch, National Archives, College Park, Maryland (RG71)

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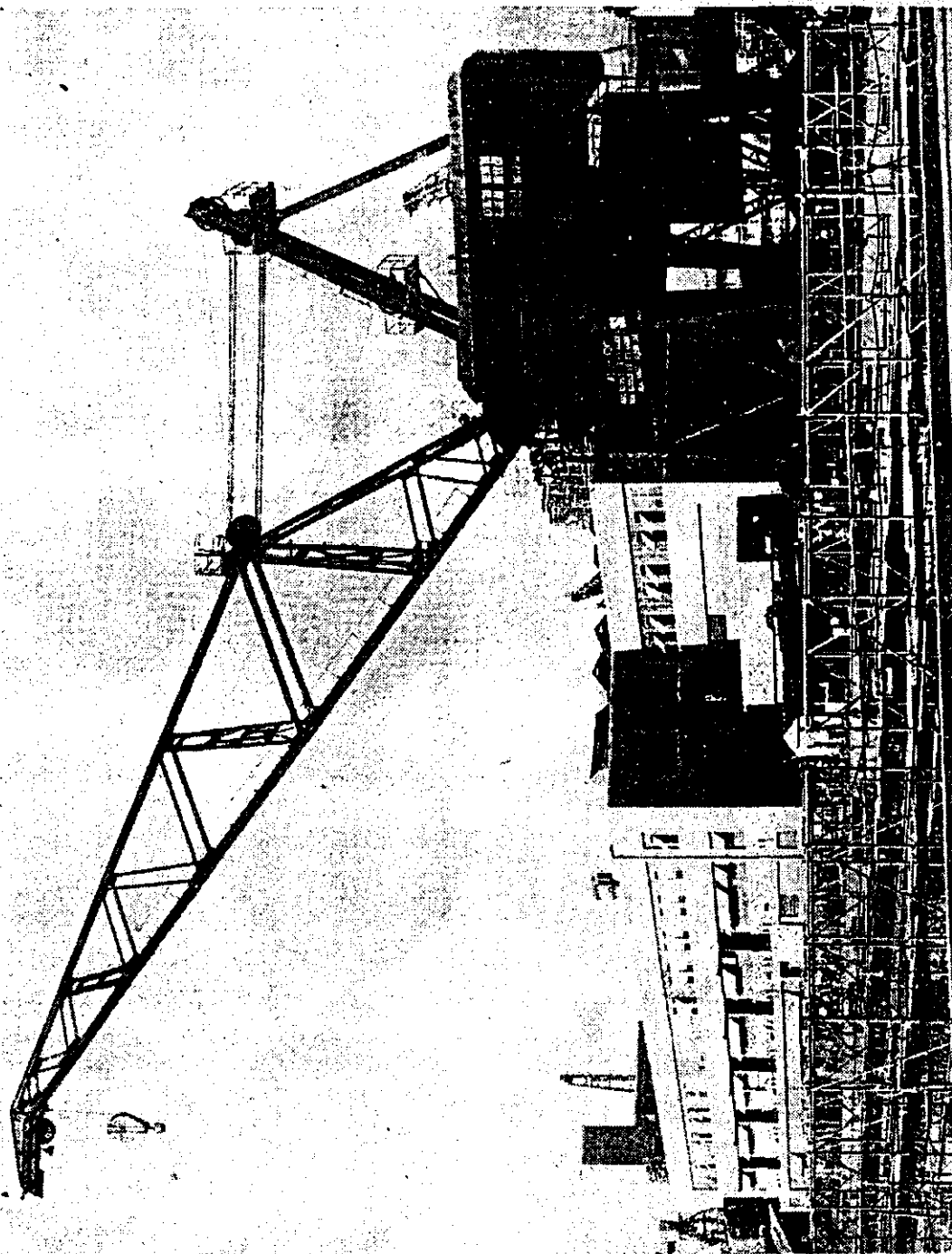
NAVY YARD, Philadelphia, Pa.  
Shipbuilding Dry Docks 4 & 5  
Contract W-47-4100  
Interior, Service Building 620

Service Building interior, first floor. March 5, 1942.

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*Navy Yards and Graving Docks*



*SERVICE BUILDING FOR DRYDOCKS NO. 4 AND NO. 5, PHILADELPHIA NAVY YARD*

Service Building and crane. Looking southwest (U.S. Bureau of Yards and Docks 1947).